

Cells and Heredity Project: 3D Cell Model

Name: _____ Section: _____

For the next Performance Assessment, you will have the opportunity to create a 3D model of an animal or plant cell. The model is made from your choice of materials and may be either a plant or animal cell. There are several requirements that are listed below.

Requirements:

- The type of cell (i.e. plant or animal) must be prominently displayed
- The model must include the required structures/organelles
- All of the structures must be labeled on the 3D model
- A typed reference sheet with all the structures' functions must be included
- It must be neat and creative
- The project must be sturdy enough to travel from home to school without falling apart

In detail:

Cell wall (if present)	Cell membrane
Nucleus	Chromatin
Ribosomes	Golgi Apparatus/Complex
Endoplasmic Reticulum (smooth and rough)	
Mitochondria	Chloroplast (if present)
Lysosomes	Vacuole
Cytoplasm	Microtubules
Cytoskeleton	Nucleolus

Each structure must be present on your model and clearly labeled! Its location must also be correct. For example, your ribosomes should not be in your vacuole. Be creative with your building materials but be aware that they should be sturdy and nonperishable. I don't want to place these cells on display and have moldy nuclei!

Make sure that your cell is clearly labeled as being either a plant or animal cell. You must pick one of the two so that you can add the appropriate structures. For instance, animal cells do not have a cell wall, so neither should your 3D model of an animal cell. Your reference sheet must have your name on it as well as all of the organelles listed above (even ones NOT on your model) and their functions. This should be typed, with Times New Roman font, size 12. You should also have 1 inch margins on your paper. Don't forget to put your name somewhere on your 3D model. It should be visible and easy to find. Look at the grading criteria sheet as you are doing your project to make sure that you complete all that you need to.

3D Cell Model Rubric

Model Design:

Points: ____/15

- ☐ Model has title.
- ☐ Each organelle is clearly labeled.
- ☐ Project is neat and creative.
- ☐ Model is sturdy and strong enough for travel.
- ☐ Model is in a 3D format.

Cell Structures:

Points: ____/15

- ☐ Organelles / structures are present and clearly labeled. (13 for plant cell)
- ☐ Organelles / structures are logically placed to reflect an actual cell.
- ☐ Cell organelles / structures are logically designed to be recognizable.

Reference Sheet:

Points: ____/14

- ☐ All organelles are listed with their appropriate functions.
- ☐ All organelles are referred to in a clear way to find on the model.

Mechanics:

Points: ____/ 6

- ☐ No spelling mistakes are present on model or reference page.
- ☐ No grammar mistakes are present on model or reference page.
- ☐ Paper is neat, types or neatly printed, with name and class section.

Total Points: ____/ 50

No project = 0

1 to 15 points = 1

16 to 30 points = 2

31 to 40 points = 3

41 points to 50 points = 4